DOCUMENT RESUME

ED 153 380 EC 110 123

AUTHOR Mosby, Robert G., Ed.
TITLE Developmental By-Pass Techniques for Teaching the Secondary Learning Disabled Student.
INSTITUTION Franklin County Special Education Cooperative, Union, Mo.
SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE Oct 77
NOTE 62p.
AVAILABLE FROM Franklin County Special Education Cooperative, Box 440, Union, Missouri 63084 ($2.80)

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Individualized Instruction; *Learning Disabilities; *Mainstreaming; Program Descriptions; *Program Guides; *Resource Room Programs; Secondary Education; Teaching Techniques
IDENTIFIERS Missouri (Franklin County)

ABSTRACT

Described is an interdisciplinary mainstreaming program for individualizing instruction for secondary learning disabled students, utilizing resource facilities in grades 7-9 in eight separate centers throughout Franklin County, Missouri. Aspects of this program--such as the developmental and by-pass strategies of instruction employed to help students gain the knowledge, concepts, and information necessary to cope with the regular classroom curriculum--are explained. Papers are included on such topics as instructional techniques for meeting the needs of various learning disabled students, developmental by-pass technologies of Missouri Child Service Demonstration Center (CSDC), Missouri CSDC first year research accomplishments, management of a resource room, administrative problems of implementation, teaching literature to the learning disabled student, and serving the behaviorally disturbed/learning disabled student. (Author/JYC)

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DEVELOPMENTAL BY-PASS TECHNIQUES FOR TEACHING THE SECONDARY LEARNING DISABLED STUDENT

EDITED BY
ROBERT J. MOOBY

OCTOBER, 1977

FRANKLIN COUNTY
SPECIAL EDUCATION COOPERATIVE
PRESS
UNION, MISSOURI 63084

EC110123

Created for Dissemination by:

Missouri
Child Service Demonstration Center
Title VI-G, P.L. 91-230
Learning Disabilities Programs
Secondary Level
Franklin County Special Education Cooperative
Union, Mo. 63084

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SOME INSTRUCTIONAL TECHNIQUES FOR MEETING THE NEEDS OF VARIOUS LEARNING DISABLED STUDENTS

By

DR. ROBERT J. MOSBY, DIRECTOR
FRANKLIN COUNTY
SPECIAL EDUCATION COOPERATIVE
February, 1977

Since mainstreaming for learning disabled students is mandated by Federal law P.L. 94-142, many classroom teachers are searching for methods of assisting L.D. students, who appear bright enough, but apparently do not learn through traditional instructional methods. Even with timely programs of remediation made possible by early identification, students still appear to learn at a slower rate than normal or simply do not achieve at levels commensurate to their chronological age. These children have a developmental lag; although they continue to grow in the basic skill areas of reading, spelling, arithmetic and writing, they never seem to catch up with their intellectual and chronological peers. Teachers often feel guilty for not doing enough or blame someone else for not doing his job. Parents are frustrated and do not know who to believe or blame. We believe it is no one's fault; rather, this is the essence of learning disabilities. There seems to be a growing belief that if given proper supportive instruction and proper exposure to the mainstream curriculum, L.D. students can survive the pressures placed on them by their lack of achievement in the traditional model of school instruction. We are sure that teachers and parents can make significant interventions on behalf of L.D. students, especially after he reaches the intermediate elementary grades. Clinical reports from teachers, parents and psychologists indicate that L.D. students can successfully complete college by using some of the suggestions that follow.

There are several very common manifestations of learning disabilities that frustrate both the learner and the teacher. Some of these conditions described below, can be by-passed until functional skill development is attained through the student's normal growth processes and with proper developmental instruction. In addition to the by-pass methodology described, students also need to learn compensatory skills to help them cope with their disability. (Weinberg, 1975)

I. DYSLEXIA:

When the youngster's main problem is reading in reference to symbol recall, the following suggested educational provisions should be made :

1. Emphasize acquisition of knowledge rather than the development of traditional skills such as reading, spelling, writing and arithmetic mechanics.
2. Verbatum cassette tape recordings of all books that are required reading can be used to assist the student in his reading skills and acquisition of knowledge. Have the student listen while he reads. Our experience shows that about two-thirds of these students profit by listening and reading. Others may be confused by a double stimulis. Listening sessions may not be effective after 20 minutes, so the teacher needs to be sensitive to the attention span of the child. In addition to a verbatum tape, the teacher may also prepare tape recorded program learning of the regular classroom text, ie., the teacher should break up the listening sessions. For example; the teacher begins to read the book verbatum, but includes a simple definition as an appositive phrase

to low frequency polysyllabic words encountered in the text. The teacher also stops the reading and instructs the student to underline important key phrases or to write critical ideas (that are explicitly stated on the tape) on an accompanying teacher prepared worksheet. The dyslexic youngster needs to have critical information explicitly expressed in as few and simple words as possible. He then reviews only the salient points necessary to remember.

3. To help students in communicating knowledge acquired through these strategies, he should be tested by oral examinations, multiple choice, true-false or yes-no. Tests can be put on cassette tape. Avoid fill-in-the-blank or essay type examinations. Dyslexic students have serious problems with nominal recall (Weinberg, 1975) that is, they cannot retrieve information stored in the brain without an appropriate stimulus cue. Therefore, fill in blank and essay type examinations will discriminate against these students' ability to demonstrate their knowledge.
4. Provide opportunity for the student to listen and watch good T.V., movies, demonstrations or video tapes. Apparently the dyslexic learns best from visually presented materials.
5. Perhaps the most effective method of assisting the student with poor reading skills is to highlight the textbooks for read along purposes as the text is dictated by the teacher on tape. By highlighting major ideas with yellow and by highlighting important names and/or terms in an alternative color, students immediately "see" the important bits of information as they read along. After allowing the student to read along for a page or so, the teacher should administer an informal quiz. The teacher first allows the youngster the opportunity to "recall" the answer, then if incorrect or he doesn't know, the teacher should administer a mulitple

choice selection. Most dyslexic youngsters who have normal or bright intelligence will know the correct answer on the multiple choice. When the youngster can't recall but gets the answer correct on multiple choice, you in essence encourage him and show by illustration that he is capable, and that knowledge is really in the brain but his problem is one of recall which is a learning disability.

II. SEQUENTIAL MEMORY:

When the youngster's main problem is in sequential memory for letters and numbers, as in spelling and arithmetic dyscalculia) and following directions, the following suggested educational provisions should be made:

1. Break up assigned tasks and homework into small sequential steps. Require one part of the assignment at a time until the whole assignment is complete. Avoid expecting students to respond to assigned homework and classroom tasks as normal youngsters respond.
2. Have the child keep daily check lists of tasks. Help him to check off each task as it is complete until he has accomplished his goals. The teacher needs to remind himself to remind the child because this child will actually forget to follow through without an appropriate stimulus reminder.
3. Provide tutorial assistance in arithmetic and spelling based on the developmental stage of the youngster.
4. Deemphasize precision in spelling and arithmetic unless one uses a multiple choice/yes-no approach. The format of standardized achievement tests usually by-pass sequencing and recall problems in arithmetic and spelling by providing a multiple choice selection with the correct response.
5. Teach use of calculator for arithmetic as a means of checking computations for students with mild dyscalculia but allow complete use of calculator, arithmetic tables

or slide rules, etc. for students with serious dyscalculia. Programmed learning materials should be provided for students for use of calculators especially in computing long division with remainders, fractions and other arithmetic expressions that are not expressed in decimals.

III. DIFFUSE SYMBOL LANGUAGE DELAY:

This syndrome has been identified by Dr. Warren Weinberg of the University of Texas Medical School of Dallas (1975) as a combination of the conditions of nominal recall and sequential memory (conditions I & II). All the recommendations for the two above apply.

1. When grading these children, the guiding principle is assess the knowledge acquired, rather than assessing the utilization of a traditional specific skill, i.e., reading, spelling or writing. Avoid procedures such as "fill-in-the-blank tests", essays, written reports.
2. Curriculum provisions for these children will emphasize T.V., lectures, tape recordings, movies, role play, social involvement and oral expression.
3. Avoid over emphasis on remediation of weaknesses, because this can put the student under too much stress and contribute to the "burned out" syndrome, often observed when students "turn off" to their school experience.
4. Give child opportunity to compensate for his weaknesses by using his strengths.
5. Provide appropriate stimulus that is syncronized to the developmental growth rate of the child e.g., reading, arithmetic, spelling and calculating, all seem to progress at different rates for each student. For each skill area, the teacher should present the instruction at the level where the child is in his own growth pattern rather than instruction based on where the child should be for his chronological age group.
6. Where possible, give the child a wide selection of media so that he may choose the mode of learning satisfactory and efficient for him.

7. Students need lots of tutorial assistance--each task needs to be broken into its component parts. The student is reinforced by encouragement until the whole is accomplished. This is the essence of good teaching.

IV. DYSGRAPHIA:

When students are unable to communicate effectively through cursive writing, (dysgraphia) or does sloppy and messy work, the following should be considered:

1. Avoid stressing proficiency in subjects such as, mechanical drawing or writing courses. These may place too much stress on this type learner.
2. Teach typing skills early. Explore hunt and peck vs. touch system, especially when child does not have efficient motor control over finger movements.
3. Allow children to make verbal reports or demonstrations vs. written reports and desk work.
4. Students who are dysgraphic often have trouble with arithmetic, not because of poor mathematic ability, but because of the sloppiness in their written work. The alert teacher should watch for this bright student doing poorly in math because of the apparent "carelessness" in written work! When sloppiness and poorly placed numbers on the page are the reason for poor math work, look for dysgraphia. Avoid expressing moral judgements of laziness or carelessness.

V. AURAL RECEPTIVE DYSPHASIA

With youngsters who have trouble picking up knowledge through auditory channels, the following instructional strategies should be utilized:

1. Avoid lengthy oral directions, but provide short written directions using high frequency vocabulary.
2. Emphasize visual aids much as if the child is deaf. For example; captioned films for deaf could be effectively

used to teach these children. However, make sure captions are read verbatum.

3. Be sure child sits near front of the room and select a teacher who speaks loudly and clearly. The student will often watch the teacher's lips in order to discriminate words for meaning.

VI. EXPRESSIVE DYSPHASIA:

When a youngster has difficulty expressing himself orally, or he cannot demonstrate knowledge by oral communication, the following suggestions may apply:

1. This student's basic problem is in communicating knowledge, therefore, to evaluate this most difficult child, one needs to find ways of observing his mechanical, social or personal production through doing, acting, gesturing and building. Reading and writing may be satisfactory.
2. Classroom discussion or one to one communication may be inefficient, therefore, written multiple choice may be helpful to assess the student's knowledge of the material to be learned.

VII. INTEGRATION OF DEVELOPMENTAL BY-PASS STRATEGIES WITH SYSTEMATIC OR PRECISION TEACHING TECHNIQUES:

The Redlands, California C.S.D.C., under the able coordination of Ms Gwen Johnson, has developed a system for diagnosis for the basic skills instruction adapted from Harold Kunzelmann (1970). The technique allows the diagnostician to find a "free" or automatic response rate for reading, writing, spelling or arithmetic. This free rate corresponds to a developmental level of the student at an automatic level. However, the student also is able to respond to basic skills stimuli at a functional level. This functional ability is what enables the L.D. student to get through school even though he makes many errors in his response.

The technique allows the perceptive teacher to "probe" the student's basic skill development with one minute samples of functional behavior. Specific instructional objectives for teaching basic skills are developed based on levels below the automatic level for each skill. Thus the student is never put under undue stress and forced to practice exercises beyond his developmental ability to respond. To improve basic skills, we recommend the California C.S.D.C. method, i.e. provide small but regular experiences in "developmental activities" based on appropriate developmental behavior at the automatic and functional levels.
We believe that this combination of Systematic Teaching with Developmental By-Pass will provide "complete" strategies of instruction for all secondary L.D. students. This concept is illustrated by Figure I.

SUMMARY:

Learning disabilities is not, to our knowledge, an entity in itself; it is relative. Most of us have a learning disability relative to our other intellectual strengths. Many of these L.D. children will be able to learn in a competitive manner in certain academic areas, but in regard to their deficit intellectual areas, learning in a traditional way, is probably most inefficient or even impossible for them. By providing options to the traditional instructional mode and by understanding strengths and weaknesses of such individuals, we can structure a school program appropriate to the L.D. student's need for acquiring the necessary knowledge to compete in society. We, therefore, de-emphasize the remediation of deficit skills relative to grade level, but stress the acquisition of knowledge and concepts necessary for life through whatever instructional strategy that works for each student. We believe that most students with good intellect will reach a functional skill level over time if they are exposed to the normal developmental curriculum and good teaching provided by conscientious teachers. We want our curriculum and instructional strategies to be like

Goldilocks and her experience with the three bears--not too soft--not too hard--but just right for the comfortable learning rate of each learning disabled child. (Mosby, 1976) Mainstreaming learning disabled youngsters in the least restrictive environment and providing a learning experience according to written individual educational programs (IEP) agreed on among diagnosticians and teachers, administrators, parents and students (when possible) is now required by P.L.94-142. We believe that the professional team that includes the suggestions listed above in the youngster's IEP will go a long way toward not only meeting the letter of the law, but the spirit of it!

FIGURE I

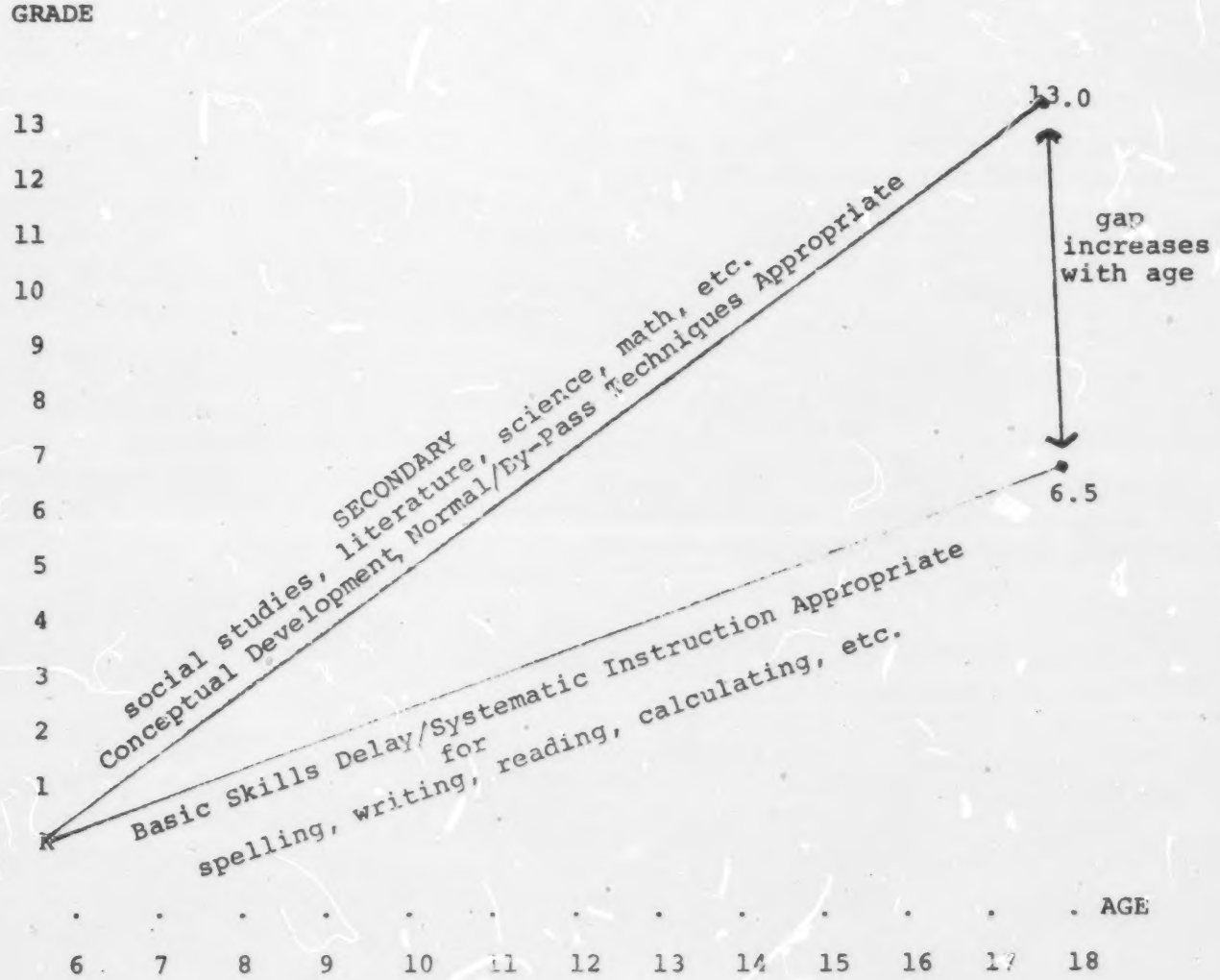
INSTRUCTIONAL STRATEGIES

for the

SECONDARY STUDENT

I.Q. 100 WITH A SEVERE LEARNING DISCREPANCY

OF 50 PERCENT



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DEVELOPMENTAL BY-PASS TECHNOLOGIES

of

MISSCURI CHILD SERVICE DEMONSTRATION CENTER

LECTURE DELIVERED AT MISSOURI ANNUAL C.E.C. CONFERENCE
OSAGE BEACH, MARCH, 1977

by

ROBERT J. MOSBY, PH.D., DIRECTOR

The Missouri Child Service Demonstration Center's (CSDC) program is entitled, "Mainstreaming Secondary Learning Disabled Students through Interdisciplinary Teams and Individualized Management Systems".

The program, serving 75 junior high students, is operating in three junior high schools in Franklin County, Missouri. The program focus is to provide alternatives for 7th and 8th grade L.D. kids for learning the regular curriculum by providing cassette tapes for all textbooks, calculators to assist with arithmetic, etc. Regular teachers' tests are taped and special tutorial assistance in regard to regular classroom assignments is provided by L.D. teachers in project equipped resource centers.

Since mainstreaming specific learning disabled students is mandated by both Missouri and Federal law, and because there is a paucity of valid and reliable instructional service models, especially at the secondary level, it is imperative that viable models are developed.

Often the literature on mainstreaming deals with different service models: resource room vs. itinerate services vs. segregated classroom (Chaffen, 1974). Instruction is mostly of a remedial or tutorial nature. The developmental by-pass strategies employed in the Missouri CSDC is a shift from the above in that remediation of deficit skills is minimized so that the emphasis, in terms of time commitment, is focused on assisting secondary L.D. students to acquire the knowledge and concepts that are the major objectives of the mainstream curriculum. For example;

in our culture we have found that the mastery of reading is the most efficient method of obtaining information and concepts necessary to help us make decisions and to cope with life. But before Gutenberg, learners depended largely upon word of mouth and demonstrations to communicate knowledge. The L.D. youngster, by definition, is one who has normal or better intelligence but has a deficit in basic symbol language skills development (Weinberg, 1975), such as reading, writing, arithmetic and spelling. Therefore, for our educational programs to spend the majority of the secondary L.D. student's time "remediating" his deficits, i.e. reading, we are discriminating against his "right" to learn that part of the mainstream curriculum (and at the secondary level it is the majority) that deals with information, concepts and knowledge.

In an effort to avoid the pitfalls of over remediating, which is the content of the typical L.D. program, and has not appeared to work (Eilenstiene, 1973 and Silverberg, 1969), we have proposed to emphasize a developmental by-pass approach to the instruction of secondary age L.D. students. The essence of this methodology is to adapt by-pass techniques to the regular classroom teacher's curriculum. For example; a regular 8th grade teacher has little time to give the L.D. student, mainstreamed in the regular classroom, regular tutorial assistance or individualize his curriculum to suit the needs of the L.D. student. However, the regular teacher may work with an L.D. teacher, who is skilled in understanding the various sensory modalities through which the L.D. student may learn, to find an alternative method of presenting the regular curriculum to the L.D. student.

An 8th grade American History text can be tape recorded verbatum so that the L.D. student who is deficient in reading skills, can read along with the text or simply listen to it without the double stimulus input. The L.D. and regular teacher can collaborate by developing appropriate work sheets with tape recorded programmed learning based on the text which can be given to the L.D. student for his assignments, thus by-passing writing deficits. The two teachers collaborate by preparing

tests that by-pass the student's reading problem by giving oral or tape recorded examinations. Test formats can be changed from essay and fill-in-the-blank tests, which appear to discriminate against the L.D. student's ability to demonstrate his knowledge, to true/false or multiple choice tests which require recognition of facts and judgement of appropriateness of ideas rather than a pure recall of information..

The instructional model proposed here is illustrated by the Figure I. The strength of this model is what we believe to be true mainstreaming in that there is a straight forward programic and administrative commitment and involvement on the part of all the staff to assist the L.D. student to actually achieve in the regular classroom. The student is not just "placed" in a regular classroom and allowed to sink or swim, even with itinerate or resource room tutorial help.

The major weakness is the absolute requirement of a resourceful, dedicated, energetic charismatic L.D. resource teacher who works well with both faculty and students; a person who is an institutional change agent.

This program requires the involvement of a total faculty and must be preceded by three to five days in-service training.

**********Insert Figure I about here**********

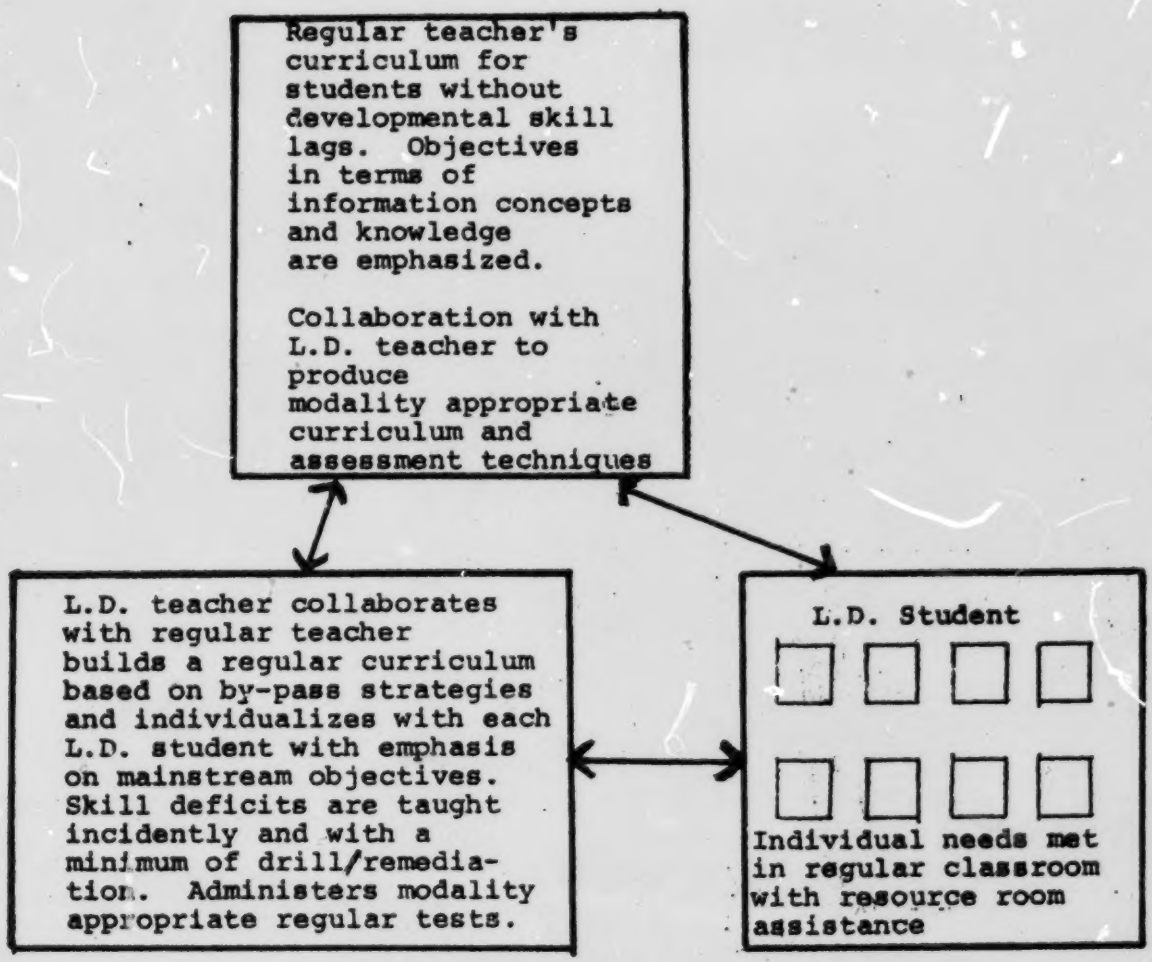
Developmental by-pass methodology is based on the concept that symbol language skill acquisition for reading, spelling, writing and arithmetic largely follows a developmental curve and with normal exposure to the stimuli, students acquire these skills naturally (Weinberg, 1975). Our job as special educators is to keep the basic skills stimuli constant but not to allow the L.D. student to fall further behind in the acquisition of information, knowledge and concepts which appear to be an intrinsic goal of our modern curriculum. Methodologies have been worked out for math, grammar, spelling and other curriculum areas (Mosby, 1976). Research in these techniques will be reported elsewhere as the project proceeds. However, the evidence already collected shows that there is a distinct difference in learning modalities and assessment modalities.

FIGURE I

A MODEL FOR MAINSTREAMING SECONDARY CURRICULUMS

for

SPECIFIC LEARNING DISABLED STUDENTS


Regular teacher's curriculum for students without developmental skill lags. Objectives in terms of information concepts and knowledge are emphasized.
Collaboration with L.D. teacher to produce modality appropriate curriculum and assessment techniques
L.D. teacher collaborates with regular teacher builds a regular curriculum based on by-pass strategies and individualizes with each L.D. student with emphasis on mainstream objectives. Skill deficits are taught incidently and with a minimum of drill/remediation. Administers modality appropriate regular tests.
L.D. Student
Individual needs met in regular classroom with resource room assistance

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MISSOURI CSDC FIRST YEAR
RESEARCH ACCOMPLISHMENTS
ROBERT J. MOSBY, PH.D.
TOM MICKES, M.A.

The questions addressed by research of the Missouri CSDC are three in number. First: Are printed standardized tests accurate measures of learning disabled student's knowledge and ability? Second: When students are mainstreamed in regular classes and given the opportunity to learn regular classroom material through alternative instructional modes and allowed to be assisted for the effects of instruction via an appropriate modality, is there an effect on the student's self concept? Third: Will students show gains on criterion reference tests as a result of by-pass instructional strategies?

The preceding research problems have been the focus of research conducted by the project staff during the 1976-77 school year. The result of that research is reported in the following paragraphs.

DEFINITION OF TERMS:

The following definitions may be helpful in understanding the basis of the research reported herein:

Learning Disabled - Students targeted for inclusion in the project were selected on the basis of the following three criteria:
a) Myklebust formula using WISC-R performances I.Q. with a cut-off score of 89
b) Gilmore Oral Reading Test

Developmental By-Pass Instructional Procedures - Classroom techniques and equipment that by-pass L.D. students' basic skills deficits by providing alternative means and modalities of information transmission. By-pass procedures included the use of taped textbooks, calculators, taped tests, multiple choice testing, etc.

SUBJECTS:

The target population consisted of seventy-five 7th and 8th grade students from three junior high schools. No attempt was made to meet the pre-set sex quotas, nor any attempt made to balance by age. Selection criteria were L.D. identification and enrollment in the 7th or 8th grade.

Assignment to taped and non-taped testing groups was done on a random basis utilizing random numbers.

APPARATUS:

The tests utilized in this project included Cognitive, Affective and non-obtrusive measures.

Cognitive

1) Advanced Battery Stanford Achievement Test (SAT)
2) Criterion Referenced Tests (CRT)
   a) Science - 7th & 8th
   b) Math - 7th & 8th
   c) Social Studies - 7th & 8th
   d) English - 7th & 8th

Affective

1) Tennessee Self-Concept Scale (TSCS)
2) Affective Attitude Inventory (AAI)

Non-obtrusive

1) Student Grades
2) Student Attendance

The Criterion Referenced Tests were developed by content area groups representing all project teachers in each of three target schools.

PROCEDURE:

After identification as target students, each student was randomly assigned to either a taped or non-taped group. Subsequently in October, 1976, all target students were administered the SAT, AAI, Tennessee and Criterion Referenced Tests. Students taking the SAT and CRT were administered the test as per their group designation, while all students took the TSCT and AAI by tape. Base line data for attendance and grades was obtained from the preceeding school year.

Following initial testing, all target students were "mainstreamed" in all classes, i.e. no student was absent from his regular class while the regular teacher was engaged in instructional activities. A resource room with L.D. teacher and aides was available at each school to provide tutorial assistance, taping of classroom material and monitoring of student progress. The amount of time spent by each student was individually determined by the student and teachers. Classroom instruction, as noted previously, included such by-pass aides as calculators, tape recorders, readers, etc. and material modification as testing by multiple choice, matching an alternative means of demonstrating knowledge.

In April, 1977 all target students were retested on all four measures and at the end of the school year attendance and grades for each pupil were compared to the previous year.

INVESTIGATION #1:

Are printed standardized tests accurate measures of the learning disabled student's knowledge and ability?

**********Insert Table I about here**********

On Table I it is clear that before instruction, L.D. students demonstrated in the large majority of cases that they know more as indicated by SAT scores if they could by-pass the reading section of the test. This also shows that L.D. students are discriminated against when taking group achievement tests because of their inability to read; their scores are often significantly higher when given a tape recorded test.

A comparison of the control and experimental groups on the pre and post tests shows that all but one of the sub-scale scores show the experimental (taped) group performing at a higher level than the control group. Of the sub-scale scores, twelve showed higher scores by the experimental level at the .15 level or

TABLE I

T-TEST COMPARISON OF CONTROL (NON-TAPE) AND EXPERIMENTAL (TAPED) GROUPS ON ADVANCED BATTERY OF THE STANFORD ACHIEVEMENT (PRE-TEST) 7TH & 8TH GRADE STUDENTS

	NUMBER OF CASES	MEAN	S.D.	T	2-TAIL PROBABILITY
VOC					
EXP	26	19.3846	4.691	2.28	.027***
CONTROL	24	16.0000	5.688		
READING					
EXP	26	31.1538	8.554	1.08	.286
CONTROL	24	28.2083	10.525		
MATH CONCEPTS					
EXP	26	13.1154	3.983	1.50	.141*
CONTROL	24	11.4167	4.032		
MATH COMPUTATIONS					
EXP	26	17.3846	5.115	1.90	.064**
CONTROL	24	14.9583	3.873		
MATH APPLICATIONS					
EXP	26	15.7308	6.083	3.25	.002****
CONTROL	24	11.3750	3.005		
SPELLING					
EXP	26	18.9615	5.524	1.40	.168
CONTROL	24	17.1250	3.615		
LANGUAGE					
EXP	26	29.6154	7.043	1.07	.289
CONTROL	24	27.7083	5.481		
SOCIAL STUDIES					
EXP	26	22.0769	6.400	2.61	.012**
CONTROL	24	17.7917	5.192		
SCIENCE					
EXP	26	22.8462	6.868	1.82	.075**
CONTROL	24	19.5417	5.985		
TOTAL BATTERY					
EXP	26	127.9615	38.794	2.50	.016****
CONTROL	24	164.1250	28.209		

TABLE I
PAGE 2

	NUMBER OF CASES	MEAN	S.D.	T	2-TAIL PROBABILITY
TOTAL READING					
EXP	26	50.5000	11.897	1.69	.097**
CONTROL	24	44.2083	14.170		
TOTAL MATH					
EXP	26	46.1538	14.988	1.44	.157**
CONTROL	24	37.4167	11.192		

*P <.15
**P <.10
***P <.05
****P <.001

above. These results support the contention that normal (printed) test evaluations of learning disabled students are not accurate measures of student knowledge and ability but tend to be measures of the student's handicap! All of which lends credence to the testing requirements of handicapped children contained in the regulations of §504 P.L.93-112 and P.L.94-142.

In comparing the net change from pre to post-test by both experimental and control groups, it is of interest to note that if the experimental group improved, the control group improved more. By the same token, if the experimental group scores decreased, the control group scores decreased less.

On Table I it is clear that before instruction L.D. students demonstrated in the large majority of cases that they know more as indicated by SAT scores if they could by-pass the reading section of the test. This also shows that L.D. students are discriminated against when taking group achievement tests because of their inability to read; their scores are often significantly higher when given a tape recorded test.

**********Insert Table II about here**********

The results of Table II are interesting since the number of variables that indicate a significant difference between experimental and control groups were not as numerous as compared with the pre-test. One explanation of this phenomenon is due to the impact of the instructional interpretation for both groups which resulted in greater success in the regular curriculum, youngsters actually improved in basic skills by virtue of their increased effort to learn and thus the gap between testing modalities lessened.

A very important finding was over the course of the year youngsters whose testing was regular (controls) did show improvement on the total battery as well as most subtest scores whereas the experimental group who received taped tests but the same

TABLE II

T-TEST COMPARISON OF CONTROL (NON-TAPED) AND EXPERIMENTAL (TAPED) GROUPS ON THE ADVANCED BATTERY OF THE STANFORD ACHIEVEMENT POST-TEST 7TH & 8TH GRADE STUDENTS

	NUMBER OF CASES	MEANS	S.D.	T	2-TAIL PROBABILITY
VOCABULARY					
EXP	25	19.6000	4.537	1.64	.107*
CONTROL	24	17.1667	5.731		
READING					
EXP	25	28.0000	10.797	.04	.967
CONTROL	24	27.8750	10.118		
MATH CONCEPTS					
EXP	25	12.8400	4.723	.81	.421
CONTROL	24	11.8750	3.530		
MATH COMPUTATIONS					
EXP	25	17.6400	6.824	.62	.536
CONTROL	24	16.4583	6.427		
MATH APPLICATION					
EXP	25	14.2400	6.766	2.21	.033**
CONTROL	24	10.8750	3.392		
SPELLING					
EXP	25	19.5200	6.911	.04	.972
CONTROL	24	19.4583	5.332		
LANGUAGE					
EXP	25	25.6400	5.985	.13	.897
CONTROL	24	25.4167	6.036		
SOCIAL STUDIES					
EXP	25	21.2400	8.767	- .19	.850
CONTROL	24	21.6250	4.924		
SCIENCE					
EXP	25	20.3600	7.141	.21	.835
CONTROL	24	19.9167	7.695		
TOTAL BATTERY					
EXP	25	179.0800	38.794	.73	.468
CONTROL	24	170.5833	28.209		
TOTAL READING					
EXP	25	47.6000	13.811	.64	.523
CONTROL	24	45.0417	13.995		

TABLE II

PAGE 2

	NUMBER OF CASES	MEANS	S.D.	T	2-TAIL PROBABILITY
TOTAL MATH					
EXP	25	44.7200	14.988	1.44	.157*
CONTROL	24	39.2917	11.192		

*P < .15

**P < .10

instruction did not show the same gains. Because there are no norms on tape recorded tests, it is difficult to understand the meaning of these scores except to demonstrate that L.D. students always scored higher when given a tape recorded test. Perhaps the experimental group were tired of listening (this was their mode of instruction all year) and since the listening version takes longer, the students were not as well motivated as they were on the pre-test.

INVESTIGATION #2:

When students are mainstreamed in regular classes and given the opportunity to learn regular classroom material through alternative instructional modes and allowed to be assisted for the effects of instruction via an appropriate modality, is there an effect on the student's self concept?

Scores on the Tennessee reflect almost a total shift in positive affective areas. Significant improvements were noted in twelve sub-scale scores, including "Total Positive" the most important single score on the Counseling form. It has been the contention of the Missouri CSDC staff that traditional remedial programs for L.D. students have led to frustration, aggression, depression and a deteriorating self concept. By relieving the source of frustration and providing opportunities for success by alternative learning modalities, these personality disorders should be relieved. The data obtained on the Tennessee (Table III) tend to strongly support the contention. It is worthy of note that there seems to be a relationship between improvement in the affective areas as herein measured and student grade improvement as indicated on Table V. Such a relationship is strongly supportive of the findings that the independent variable (by-pass procedures) is responsible for improved self-concept.

**********Insert Table III about here**********

The AAI yields results, which while not as substantial as the Tennessee, are corroborative of improved affective areas.

TABLE #LI

COMPARISON OF PRE-POST TESTS

ON THE

TENNESSEE SELF CONCEPT SCALE

CONCEPT SCALE	PRE-TEST	POST TEST	S.D.	T	2-TAIL PROBABILITY
SELF CRITICISM	44.7808	48.0959	11.567	+ 2.45	.017**
NET CONFLICT	4.82055	4.96712	19.570	+ .64	.524
TOTAL CONFLICT	58.1507	56.7397	14.398	- .84	.405
TOTAL POSITIVE	366.849	405.890	8.28	+ 4.05	.000***
IDENTITY	33.7123	37.7534	8.691	+ 3.97	.000***
SAME	43.9178	47.3699	10.573	+ 2.79	.007**
BEHAVIOR	33.3699	37.5733	9.635	+ 3.73	.000***
PHYSICAL SELF	38.5479	43.7397	11.555	+ 3.84	.000***
MORAL-ETHICAL	36.3288	38.3014	10.115	+ 1.67	.100*
PERSONAL SELF	41.5205	46.6438	11.543	+ 3.79	.000***
FAMILY SELF	37.5753	39.5342	10.363	+ 1.61	.111*
SOCIAL SELF	37.9041	41.4932	10.252	+ 2.99	.004*
VARIABILITY	49.8493	49.5479	12.303	- .21	.835
COLUMN VAR.	49.0685	48.7945	12.904	- .18	.857
ROW VAR.	50.4658	50.0274	12.621	- .30	.768
T/F	4.69726	4.98356	.21113	+ 1.16	.250
DEFENSIVE POSITIVE	49.0274	50.0411	13.030	+ .66	.508
GEN. MALADJUSTMENT SCALE	70.9589	64.6575	13.563	- 3.97	.000***
PSYCHOSIS SCALE	62.5068	59.4658	14.351	- 1.81	.074*
PERSONALITY DISORDER SCALE	61.5205	60.1644	12.136	- .95	.343
NEUROSIS SCALE	64.2877	55.8356	16.175	- 4.46	.000***
PERSONALITY INTERPRETATION SCALE	4.08630	4.11918	1.3077	+ .21	.831
DISTRIBUTION	19.4521	19.3425	14.512	0	1.000

*P < .10

**P < .01

***P < .001

DEGREES OF FREEDOM = 72

Four of the six areas showed positive trend improvement (an inverse scale) with significant improvement noted in attitude toward family. It is puzzling to note the regression in attitude toward teachers as the project approach requires extra attention of classroom teachers.

**********Insert Table IV about here**********

STUDENT GRADES:

As previously noted, student grades during the first project school year 1976-77 were compared to student grades in the content areas of math, English, social studies and science. Letter grades were reduced to a numerical value on a scale beginning with F=0 and progressing through A=11. Results of this comparison are noted on Table V.

**********Insert Table V about here**********

One important reason why grades increased is that all regular teacher-made tests were given by the resource teacher using orally administered multiple choice questions or some other appropriate by-pass assessment technique. Teachers were requested to otherwise grade youngsters like anyone else in the class. It is believed that the regular by-pass of reading failures on teacher-made tests greatly effected the increase in student grades from his previous year's grade marks.

While it is undeniable that the changes in the student grades are subject to many contaminants, i.e. change of teachers, change of schools, halo effect, etc., the degree of change and the consistency of that change are strongly corroborative of positive trends in the cognitive and affective areas. If, for nothing else, the improvement in grades must admittedly have had positive effects on the student's self concept and self esteem personally and within the family. Such an assumption is supported by the positive trends noted on the Tennessee. The target students are pupils who have consistently received poor marks in

TABLE IV

COMPARISON OF PRE-POST TEST SCORES ON THE AFFECTIVE ATTITUDE INVENTORY

	PRE-TEST	POST-TEST	S.D.	T	2-TAIL PROBILITY
FAMILY	1.7917	1.4583	.934	-3.03	.003**
SCHOOL	1.7778	1.7222	.933	- .51	.615
GENERAL	3.4384	3.2740	1.70	- .83	.411
TEACHER	1.0274	1.2466	.854	+2.19	.032*
SOCIAL STRUCTURE	2.0411	2.0548	1.296	+ .09	.928
CRITICAL ITEMS	10.0548	9.7808	3.038	- .77	.444

*P < .05
**P < .01

DEGREES OF FREEDOM = 72

TABLE V

COMPARISON OF TARGET STUDENT GRADES FROM 1975-76 TO 1976-77

	MEAN 75-76	MEAN 76-77	S.D.	T	2-TAIL PROBABILITY
MATH					
SEMESTER 1	8.2857	8.4714	6.455	+ .24	.810
SEMESTER 2	7.8000	7.3714	6.542	- .55	.585
YEAR	16.4348	15.9275	12.057	- .35	.728
SCIENCE					
SEMESTER 1	4.1429	7.0857	3.726	+6.61	.000**
SEMESTER 2	5.3803	6.7042	4.525	+2.47	.016*
YEAR	9.5942	14.1739	7.672	+4.96	.000**
ENGLISH					
SEMESTER 1	3.5857	8.1429	4.238	+9.00	.000**
SEMESTER 2	5.0141	7.8028	5.636	+4.17	.000**
YEAR	8.8261	15.8841	8.084	+7.25	.000**
SOCIAL STUDIES					
SEMESTER 1	5.0286	7.1429	4.405	+4.02	.000**
SEMESTER 2	5.9155	8.1549	5.718	+3.30	.002*
YEAR	11.0290	14.9130	8.981	+3.59	.001**
GRADE TOTAL	45.8986	60.2464	24.188	+4.93	.000**

*P < .01
**P < .001

DEGREES OF FREEDOM = 70

school, and for many of the children this past school year marks the first departure from this frustration syndrome.

ATTENDANCE:

In a similar manner to grades, attendance comparisons were made to base line attendance figures obtained during the previous school. This data is reflected in Table VI.

**********Insert Table VI about here**********

It has been the belief of the project staff that decreases in school frustration and improved opportunity for success would improve the attendance rates of learning disabled target students. Such a belief is clearly not borne out by the data in Table VI. In fact, significant increases in absenteeism were recorded for several time periods.

This adverse result of increased absenteeism probably reflects a weakness in our evaluation design. For example, base line measures of attendance were taken from the student's previous year attendance and may reflect difference in attendance patterns between elementary vs. junior high school. For example, sixth grade students as a group or even sixth grade learning disabled students attend school more regularly than 7th grade students as a group. If such were found to be true, then comparison of a 7th grader's attendance with his sixth grade attendance may not be valid. To properly examine this factor, a control group of similarly situated pupils needs to be developed for comparison with the target groups.

INVESTIGATION #3:

Will students show gains on criterion reference tests as a result of by-pass instructional strategies?

The information presented in Table VII for grades 7 and 8 indicates that youngsters made significant gains in social studies but negligible gains in the three other areas tested.

TABLE VI

COMPARISON OF THE NUMBER OF DAYS ABSENT BY TARGET STUDENTS DURING THE SCHOOL YEARS 1975-76 AND 1976-77

	MEAN 1975-76	MEAN 1976-77	S.D.	T	2-TAIL PROBABILITY
QUARTER 1	2.3559	1.7119	3.263	-1.52	.135*
QUARTER 2	2.3276	2.4310	3.302	+ .24	.812
SEMESTER 1	4.5738	4.0000	4.595	- .98	.333
QUARTER 3	2.3667	2.8500	2.943	+1.27	.208
QUARTER 4	2.0164	2.9016	3.241	+2.13	.037**
SEMESTER 2	4.2381	5.8730	4.633	+2.80	.007***
YEAR	8.8226	9.9032	6.025	+1.41	.163*

*p<.15
**p<.05
***p<.01

However, a serious problem arose in regard to our instrumentation. Because of a serious illness of a critical staff member, the project developed criterion test was not properly prepared. That is, the test forms were not adequately checked for reliability; some items were found to be too difficult and the test in general was judged unsatisfactory.

**********Insert Table VII about here**********

TABLE VII

COMPARISON OF PRE-POST TEST SCORES OBTAINED FROM CRITERION REFERENCED TESTS GRADES 7 & 8

	PRE-TEST	POST-TEST	S.D.	T	2-TAIL PROBABILITY
ATH	19.4521	19.3425	4.195	- .22	.824
NGLISH	28.6027	28.9589	8.104	+ .38	.708
OCIAL STUDIES	13.8732	17.9014	6.509	+5.21	.000*
CIENCE	16.9452	17.1370	5.673	+ .29	.774

*<.001 DEGREES OF FREEDOM = 72

MANAGEMENT OF A RESOURCE ROOM
BILL SINGLEY, TEACHER
C.E.C. PRESENTATION
MARCH 25-26, 1977

Resource room means different things to different people. For the seventh and eighth graders at Pacific Junior High, the Resource Room (RR) is used to by-pass certain areas of delayed skill development and help students obtain the knowledge they are expected to acquire at these grade levels. Books are on tape, calculators are used and group work is encouraged. It is used by many students as just a quieter place to work. To manage a room that on any given day may help between 75 to 120 students, coming from 8 to 14 different classrooms, takes coordination and cooperation with classroom teachers, the resource teacher and his aides, and of course, the students.

Before discussing student use of the RR, it is imperative that one look at the teacher involvement with the room, aides involvement with the room and the physical room itself.

At Pacific, there are eight "target" teachers; four per grade - one each for math, science, social studies and English. Included in their classes are the 25 students in our program that were diagnosed as learning disabled. Each teacher, a week or more in advance of a unit, gives the resource teacher an outline of what will be done in his class. This outline covers major concepts, pages to be read, assignments and tests. While outlines are given weekly or by-monthly, any special instructions or changes in plans are communicated on a daily basis during a five to ten minute meeting during the classroom teacher's planning period. These informal meetings are held three to five times weekly.

Aides play a large role in the success of the RR. At Pacific there are three types of aides. One group is paid by the school district. While taking direction from the resource teacher, they have the same responsibilities as many teachers. They help, serve

and if need, correct any student that needs their attention. Besides working one to one and with small groups, they carry out administrative duties, such as sign-in, sign-out sheets and keeping a tabulation of time spent in the RR and for what purpose that time is used (reading with tapes, calculators, assignments, tests). The junior high, or peer aide, was developed for math students. Top students volunteer to come to the RR to help fellow classmates with problems. Lastly, aides from the senior high school in the teacher cadet program work one hour a day. If they work during a period when the RR is crowded, they are invaluable.

The physical size and lay-out of the room is of prime importance. Since equipment, such as calculators and tape players, are used in abundance, it is important that electrical outlets are numerous. Batteries die out quickly and can get to be a large expense. It is not uncommon to see the "walls" filled with students and the middle of the room empty. The middle of the room contains round and rectangular tables for group work. The walled areas contain desks large enough for books and cassette players. Two to three listening centers are always set up near the wall so that a group can read and listen to the same reading material. When help is given to 75 to 120 students a day, a large closet will not work as a RR.

The RR, of course, benefits those students who are having difficulty in certain academic areas. But there are certain conditions to be met prior to using the RR, and certain rules to follow once in the resource room. The RR is not <u>the classroom</u> for any one academic area. All students must be present during the instructional part of the class period when the teacher is lecturing, showing filmstrips or films, etc. These learning experiences cannot be duplicated by the resource teacher. Only when a class starts on a reading or written assignment, can a student <u>wanting</u> to use the resource room leave to do so, and then only with teacher permission (usually just a formality). Notice that <u>wanting</u> is emphasized. No student is forced to use the RR. Although he may be encouraged, he is not forced. The

reason behind this is that any student who comes to the RR, comes to work. When he is finished with his work, he returns to his regular class. Disrupting and general goofing off is prohibited. If these behaviors continue, he is asked to leave. Although the RR may seem noisy to an observer, it doesn't seem to bother most of the students. It does distract students, though, when the noise is a disruption or goofing off.

When a student enters the RR and signs-in, the resource teacher is ready for him. If he has difficulty in reading and has to read in a social studies book, the tape player is set up and ready to go. Little time is wasted. If he has an ordering problem and understands the concepts involved, a calculator is set up to be used. If he is working on an assignment, individually or in a group, a table in the center of the room has already been set aside for him. If a group comes in working on individual study questions, they work together finding the answers. If they come up with the same answers, (copying - yes) it's fine - as long as everyone contributes to finding those answers. If students don't contribute, they end up working alone away from the group. If a student has a written assignment and is dysgraphic or has difficulty expressing his thought on paper, he is given a tape and recorder to record his words.

All students using the RR for any unit are tested on that unit in the RR. Tests are multiple choice, true/false and/or matching, thus by-passing nominal recall problems. The test is usually the same test given by the classroom teacher. Changes are made only for fill-in and essay type questions. The resource teacher makes the changes, and the classroom teacher approves or disapproves them. All tests are either taped or read aloud to the students. Their knowledge of the material is tested - not their reading abilities.

The following may give the reader an example of how a typical period may go in the resource room:

11:00 - aides get materials and equipment ready for expected students: resource teacher conferring with classroom teacher's planning period

11:10 - Five 7th grade math students enter, sign-in and go to work (individually) with calculators

11:15 - four 8th grade social study students sign-in to read and listen to tape

11:20 - four 8th grade math students sign-in. Peer aide to help four 7th grade social study students sign-in to take test-part on tape, part will have it read to them

11:30 - six 8th grade English students to work on individual packets

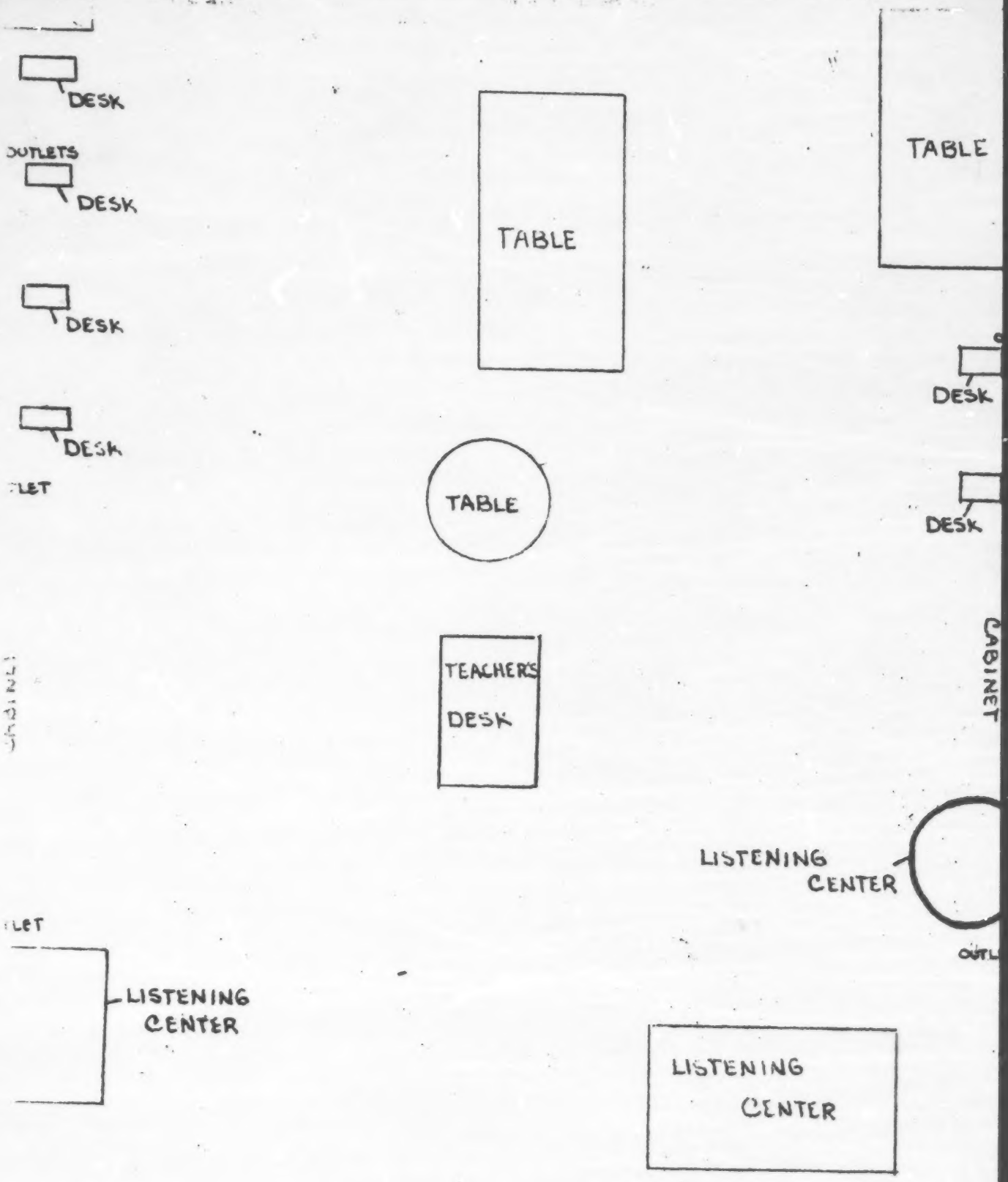
11:55 - class dismissed

One aide will help with the test while everyone else circulates around the room helping. 23 students are using the room. Capacity is 25.

For 23 students from five different classes to work in one room during this short span of time took cooperation of students and teachers. This cooperation in Pacific became more important when teachers, other than the original eight selected to work with the L.D. students, started asking and receiving help for students in their classes. Fourteen teachers are now involved with 130 students, using the resource room. 80 use the room at least twice weekly.

80 USE THE ROOM TWICE WEEKLY BECAUSE THEY WANT TO SUCCEED!

A by-product to success, be it passing one's first test or an improvement in a grade, is change in attitudes toward school and social behavior. These changes are also reflected at home. One parent whose child, because of repeated failure and frustration, had to be forced to go to school every day, summed up his success like this: "It's as if we had died and gone to heaven."



DIMENSIONS
20'W x 40'L

CASE STUDIES
LINDA EMMETT, TEACHER
C.E.C. PRESENTATION
MARCH 25-26, 1977

You have just been shown the model for setting up a Resource Room for learning disabled children on a secondary level and some research results. We would also like to share some of the experiences of a couple of students involved in the program.

CASE STUDY #1

Jeff was 13 and in the 7th grade when the teacher began working with him. He flunked history both semesters and had to drop from the basketball team. In his math, science and English classes he generally made "I's". Since his major problem seemed to be with reading and spelling, the teacher spent much time the preceding year having him read and spell words. It was very frustrating for him to have to do this and it was frustrating for the teacher to realize how little he improved. Jeff continues to do poorly in class and referred to himself as "dumb" or "stupid" and planned on dropping out of school at 16.

Jeff, and a lot of these kids like Jeff, are very often confused further by the different reactions they get from their parents and teachers. In Jeff's case, his mother was very sympathetic, while his father took a more hard-lined approach. His teachers fluctuated in their attitudes too.

When Jeff was evaluated for the CSDC program, a meeting was held with Jeff's science, math, English and history teachers, the Resource Room teacher, the parents, Jeff and the counselor who presented and explained the test results. Everyone heard and saw the same data and everyone was able to express how this affected his work in their class. Then suggestions for by-passing his learning problems were discussed, and when agreed upon, these suggestions were written into a prescription.

As for the actual suggestions, here's how it has worked so far:
History: Jeff's teacher has programmed a low reading level American history book onto cassette tapes. Jeff has the book read to him this way, and the tape directs him when to take notes. The Resource Room provides Jeff with the opportunity to make sure his notes are complete, since the Resource Room has copy of all the history tapes. Study sheets are made up before each test to guide him in his studying. Jeff then comes to the Resource Room to have the test read to him. Jeff made an "S" on the last history test.
Math: Jeff is a very slow worker, so one of the first things his math teacher did was to allow him to do half the required number of problems. Jeff has trouble with keeping himself organized while working through a problem. The calculator has really helped him out there. The Resource Room provides him with the calculator, and we are there to explain all the problems that are causing him trouble.
Science: The science teacher sets up one lab in the Resource Room for those students who need the directions read to them. Jeff uses the Resource Room for that at times. A study guide is also provided by the Resource Room before each test. Jeff uses that and has the test read to him also.

One thing about putting tests on tape that we have found this year is that it is not the perfect answer for everyone who has trouble reading. We have found some kids who prefer to do as much of their own reading as possible and only ask for help on certain words or passages. Other kids find the tape too slow or fast or they just can't seem to sit for more than ten minutes listening to a tape. Jeff is one of these kids, so he seems to do better when the test is read directly to him.
English: Jeff is in a lower level tracked English class. His teacher gives him only the material he feels Jeff can handle. Rather than have the students read on their own, Jeff's teacher gets around the reading delay by reading most things out loud to his class.

Jeff has not failed any subject yet this year. His grades

have mostly been "M's" and "I's" and he was able to stay on the basketball team for the full season. Recently Jeff told me he could not wait until he graduated from high school so he would be done with school forever, which at least means he is not thinking too much about dropping out at 16 anymore.

CASE STUDY #2

Tom was 13 and also in the 7th grade last year. Tom's mother had been aware of his reading and spelling problem since Tom was in the 1st grade. Tom has been evaluated many times in the past and had been receiving extra reading ever since 3rd grade. By the time I got Tom in a traditional L.D. program last year, he was sick of all special help and opposed to reading. Tom's grades in his major subjects were generally "I's" with some "M's". He planned on dropping out of school at 16 and joining the navy.

Tom is very bright and realizes this despite his reading difficulties. He really got a lot out of having his test results explained to him. Now that he understands his problems better, the teachers find him a lot more cooperative. Tom also has discovered a talent for photography and girls. He has gained a lot of status around school while working for the year book and he was voted "Biggest Flirt" last year. These interests alone may keep Tom in school.

Here is how Tom's individualized program is working this year:
History: Tom is on the tape program that his history teacher uses in class. This allows Tom to get the necessary information. The Resource Room provides him with a study guide before each test. Tom has not felt it necessary to have his history tests read to him.
Math: Tom uses a calculator in the Resource Room to get around his ordering problem.
Science: When Tom is required to read a magazine or article in science class, he comes to the Resource Room with several others to hear it on tape. He uses the study guide before each test. If the science test has any fill-in-the-blank or short essay questions, he comes to the Resource Room to take a revised version of the test. The CSDC revised version just turns fill-in-the-blank or short

essay questions into multiple choice, true/false or matching questions. This approach seems to get around his spelling and nominal recall problems. Tom got an "S" on a recent science test.

English: In English, Tom's teacher offers him a multiple choice spelling test. He also comes to the Resource Room to have any stories or worksheets read to him.

So far this year, Tom is generally making "M's" with a few "I's". The pediatric neurologist associated with the CSDC Project has gotten both Tom and Jeff interested in applying for use of the talking books and cassette tapes offered by the Library of Congress. Tom appears excited about this and apparently has forgotten about dropping out of school.

In one of the eighth grade English classes participating in the project, the teacher has six L.D. students. She began having her reading assignments put on tape and asking the student to try it. She has noticed a big improvement in all of the kids' grades on the comprehension questions that follow the reading. Since then, she has been encouraging the kids to continue using this method. When it came time for book reports, three of those students decided to put their reports on tape. One of the three received the highest grade in the class on his book report done in this manner.

We have found that this program gives kids a chance to expect a few academic successes that they would never before have expected. A good example of this is that one of the eighth grade girls in the program has been able to make the honor roll both quarters this year. Her excitement about this lets us know that this program is really worthwhile.

SERVING THE LEARNING DISABLED/BEHAVIORALLY DISTURBED STUDENT

DONNA STOLZ, TEACHER

C.E.C. PRESENTATION

MARCH 25-26, 1977

The Missouri CSDC has the flexibility of serving the multiply handicapped LD/BD student. The LD/BD child presents a slightly different set of problems with which his teachers, parents and himself must cope. This type of child is probably one of the most difficult to deal with in the traditional school setting.

The array of learning deficits belonging to the LD/BD child we have seen fit a pattern known as the Developmental Gerstmann Syndrome (Mosby, 1977). What is characteristic of this child's scholastic difficulties is poor sequential memory which manifests itself in four broad areas. (1) He has poor, sloppy handwriting with frequent erasures, inconsistant letter size and marking pressure and other spacial orientation errors. (2) This type individual makes spelling errors such as omitting letters and transposing letters. (3) He is the type child who receives complaints from his teachers that he cannot work independently or follow directions. (4) Finally, this child is typically poor in arithmetic and makes inaccurate calculations because of his inability to keep numbers in sequence and correctly oriented on paper.

Accompanying the scholastic learning problems of the LD/BD child is often the affective disorder of depression (Weinberg, 1976). Childhood depression is a condition where, like adult depression, the individual does not feel good about himself and his functioning and coping abilities are hindered.

During depression, these children's learning problems, which already prevent him from adequately organizing life-situations, become accentuated. This creates additional stress in his environment which often results in bringing behavioral disturbances to a height. A depressed child is apt to get into trouble by breaking the rules, acting out or failing to perform.

A vast majority of children who are diagnosed B.D. are depressed. They can be helped with carefully monitored anti-depressant medication, plus by-pass learning methodologies and interventions in their environment which help to avoid the stress which leads to behavioral distrubances as much as possible, thereby curtailing behavioral outbreaks.

Originally, we had hoped that we could service the LD/BD kids entirely within the Resource Room setting. However, it soon became obvious that the largeness of the room, for one thing, created problems for the LD/BD child as well as for others in the room. This type child seems to need even more individual attention within a closed, structured environment. Luckily, we had such a "mini-Resource Room" available which has been set up as a behavioral by-pass for school experiences as well.

If a LD/BD child is creating a behavioral distrubance in the classroom, the teacher has the option to send him to my room to receive instruction and to remove the hassle of dealing with the behavioral problem his/herself. In addition, students have scheduled times, usually during study periods, to come to the room.

This time is spent in several ways. The kids work on class assignments receiving individual help through by-pass methodologies as needed. In addition, most of my students simply cannot keep up with their class assignments, therefore, we monitor them for the students. We place a lot of emphasis upon talking through difficulties which arise at school and seek positive approaches to work through these problems. One most successful approach to managing behavior has been the use of behavioral contracts. A behavioral contract results from the use of accurate empathy (by the teacher or counselor) to assist the student in identifying a concrete concern, then structuring a written behavior contract of specific sequential behavior to assist the student in achieving his own goals (Dustin & George, 1973).

An example of a successful behavioral contract is one developed with a very capable 8th grade student who was not

completing any work in his math class. As a result, he was disrupting the rest of the class and damaging his grade. The teacher discovered Sam was bored with what he was doing in math and really wanted to progress onto more complex material. Therefore, we made a "working-time" arrangement with his teacher that allowed Sam to work through the unit tests of his 8th grade text on the condition he work a fixed amount of time each period. The contract has been so successful that Sam worked through his entire 8th grade text and into high school/college level material. Sam is now so motivated that he presently works the entire class period with avid interest and with no prodding. Another contract was developed with a girl who was talking out during class at inappropriate times. A contract was worked out with her to earn a pepsi if she could keep her outburst to a minimum throughout the week.

Other strategies for dealing with the LD/BD have included the buddy system. A peer or adult advocate to help steer a student through the battleground of the scholastic institution can prove tremendously beneficial for the LD/BD student. For example, one of our students consistantly found himself in trouble during several classes. A system was worked out so that when the class is becoming too stressful for him, he may leave the classroom to work with a specific teacher's aide with whom he has developed a great friendship. This arrangement has been most helpful for him. His grades have improved and his troublesome behaviors have decreased a great deal.

One of the biggest difficulties in working with the LD/BD child is the failure on the part of teachers and administrators to realize that the irritating behavior these children display are in fact, a facet of their learning and affective disorders. Examples of this are forgetting assignments, doing inaccurate or incomplete assignments, tardiness, being generally disorganized and confused and just not organizing important life sequences. Because these behaviors are so irritating and difficult to understand as anything but laziness and intentional

"meanness", we have trouble making the necessary considerations to be less punitive and more understanding of these children. It has been an ongoing task for the teacher to be the LD/P child's advocate and constantly work with the school staff to develop strategies that are both comfortable for the teacher and beneficial to the child.

ADMINISTRATIVE PROBLEMS OF IMPLEMENTATION

JAMES E. FINLEY, SPECIAL EDUCATION DIRECTOR

C.E.C. PRESENTATION

MARCH 25-26, 1977

As is the case in adopting any new educational program, there are always problems that arise. The adoption of this by-pass method for secondary learning disabled students by the Union School District was no exception.

Speaking strictly as a central office administrator, I can see four major areas of concern. These are staff acceptance, physical plant facilities, finance and selection of the resource teacher. Since this program did not involve maximal input from regular teachers and principals when it was written, there was the problem of selling this innovation to our instructional staff.

Staff acceptance is always a problem with innovations, especially when regular educators are asked to mainstream special education students. The development of the program had extensive involvement from central office level people across the county but because of the time factor, there was minimal input from building principals and regular teachers. This is a serious problem especially since they perceived the program for mainstreaming was more or less thrust upon them.

Because the methods proposed and employed in this program are somewhat revolutionary, it was difficult for some regular administrators and regular teachers to accept even though there was an extensive five day workshop provided before school started. A note of caution, therefore, for anyone attempting an innovation like this is to be sure the regular staff is thoroughly informed and brought along through the planning stages.

It is also imperative to the success of this project that the building principal be highly receptive to the program. Without his cooperation, I believe that the project is doomed for failure.

Another problem is simply that of the physical location in the building for the resource classroom. It does involve the use of one room full-time. I suppose that room could be used part-time, but it would severely limit the potential of the program. Ideally, a room should be set aside for full-time use. In our case, we had to take away a room that was used by the teachers for showing films, as a work area and as a place for students to do make-up work. This was not the best way to start a new program -- by taking away something that the teachers were using quite often.

A third major area of administrative concern is the cost of implementing the program. Because of federal money, this was not a serious problem in Union but certainly could be in a new district adopting the project. In addition to the learning disability teacher, an aide is almost imperative for making tapes, reading tests and for the general management of the resource room.

Through our cooperative effort in Franklin County, we have access to a media consultant who also serves as a consultant with teachers. I realize that in most districts, it would be almost financially impossible to hire someone new for this role so the job will probably fall to some existing personnel such as a librarian. The Coop also has a counselor who works entirely with these learning disabled students, their parents and their teachers. In most districts, this burden will fall upon the regular counselor. I do feel, however, that these students are the ones with whom a good counselor will already have been actively involved.

As far as the cost of equipment needed to start the program, $1,000 would be sufficient. This would be used for the purchase of calculators, tapes, tape players, special equipment, tables and chairs needed in the resource room.

A fourth area of concern and one of the most important is the selection of the resource room teacher. This individual has to be a very special person. He or she has to be able to get along and work closely with the classroom teachers, taking their suggestions and helping them in all ways possible. At the same time, this person has to show initiative in dealing with teachers

so that the general idea of the program does not go astray. As is the case with all good teachers, this individual has to be very student-oriented. It is a very difficult position to fill and a situation that should be given a great deal of thought before making a final selection.

I do feel that the adoption of this program will create some problems from an administrative stand point, but I strongly believe that the end results, i.e., the better education of secondary learning disabled students will far outweigh any difficulties that arise. We have several students who, in the past, had been failing two or three subjects but who are now passing everything and in some cases, are even making the honor roll. Students now have a better feeling about themselves and about school.

This program is without a doubt a very outstanding project.

4) They read difficult passages aloud.
5) They give their students the choice of reading or listening to a programmed audio tape of the book with the above suggestions on the tape.

If this approach appears as unimaginative, it may be that. BUT IT WILL WORK! The fact that a student has difficulty reading words on a printed page does not necessarily indicate that he is inarticulate, slow or dull. Properly motivated, he will try to read or listen to an audio tape. Shown respect, he is likely to turn a mild discussion into a lively debate. He might even read an entire short novel in one evening, if he thinks he will be heard the next day. If the teacher is concerned about reading skills, he can present instructional material at his developmental level, but give him a chance to participate in the regular program.

...BUT USING THE CALCULATOR IS CHEATING!

BY
KEN THARPE
MEDIA DIRECTOR

Some parents and teachers have expressed concern that the L.D. program recommends the use of calculators for some students. Teachers feel that if the child uses the calculator, he/she will not learn their basic facts. Parents feel the same about calculator use.

The NEW L.D. program recommends the use of calculators with some students as a by-pass for sequential memory problems. "Some Instructional Techniques for Meeting the Needs of Various Learning Disabled Students" by Dr. Robert J. Mosby states, "when the youngster's main problem is in sequential memory... numbers...(as in) arithmetic...teach use of calculator for arithmetic as a means of checking computations for students with mild dyscalculia but allow complete use of calculator, arithmetic tables...for students with serious dyscalculia."

Some students know their mathematical facts, but cannot sequence their problem in a way to get a rational answer. The following examples are from an actual workbook page of a 13 YEAR OLD BOY:

$$9\overline{)4527} \quad 503 \quad 4527 \quad 00$$

and

$$\begin{array}{r} 309 \\ \times\ 47 \\ \hline 7263 \\ 3236 \\ \hline 10,497 \end{array}$$

FROM A 12 YEAR OLD BOY:

$$\begin{array}{r} 809 \\ \times\ 47 \\ \hline 5663 \\ 3236 \\ \hline 8,891 \end{array}$$

For these kids programmed learning materials should be provided, especially in computing long division with remainders, fractions and other arithmetic expressions that are not expressed

in decimals. A booklet of programmed material for use of calculators has been developed and is in all the CSDC Resource Rooms. This is a working document that will be revised as time and need permit. Marceen Able (seventh grade math teacher at Sullivan, Mo.) worked on many of the programs for calculator use.

The calculator can be used to teach mathematics. Mrs. Anna Barbara Sakurai who teaches at Webster School believes that teachers of mathematics should be more concerned with the teaching of mathematical concepts than tedious arithmetic paperwork. She thinks that the calculator is a good device to teach concepts because it by-passes this tedious operation. An example of using the calculator to teach concepts is to assign a number of problems such as 96+1, 96+2, 96+3,etc. The student is encouraged to see the mathematical pattern and guess what the solution to the next problem will be. Once the student gets the concept, she removes the use of the calculator and assigns the student practice at the student's developmental level.

"Once he/she has the insight then comes the practice," she says. Sakurai attributes this concept to Piaget.

This method is a good way to diagnose and teach developmentally. Have the student circle where he/she begins to gain an insight into the problems then remove the use of the calculator for practice.

Those that don't get the insight are not developmentally ready. Once they are ready, then drill is appropriate. Calculators can also be used to great advantage to increase students' interest in arithmetic paperwork. Centurion and Texas instruments both have calculators that will give (on a display) the problem, and the student must complete the equation +. Example: 10-2=? If the student answers correctly, he sees the correct answer, and a "happy face"; if he answers incorrectly, the correct answer appears on the display (student is never given wrong stimulus) and he is given the same problem until the correct answer is given.

In an article in the February, 1977 issue of Good Housekeeping, "Should Your Child Use a Calculator?" the author stated that "The National Council of Teachers of Mathematics, in endorsing

the use of calculators in the classroom suggests that they be used to reinforce learning." Also, "The Conference Board of the Mathematical Sciences recommends that, beginning in the eighth grade, a calculator should be available to every student." The article further states that teachers "not allow calculators to be used while taking exams unless everyone in the class has one."

Section 504 of P.L. 93-112 states, "A recipient to which this subpart applies shall make such modifications to its academic requirements as are necessary to ensure that such requirements do not discriminate or have the effect of discriminating, on the basis of handicap, against a qualified handicapped applicant or student.

A receipient to which this subpart applies may not impose upon handicapped students other rules, such as the prohibition of tape recorders in classrooms or of dog guides in campus buildings, that have the effect of limiting the participation of handicapped students in the recipient's education program or activity."

In summary, these provisions indicate that if an aid has been recommended for a handicapped learner, anyone who hinders in the facilitation of that aid (tape recorder, calculator, abacus) is in violation of this section of P.L. 93-112.

HOW DO YOU SET UP A PROBLEM FOR CALCULATOR USE?

When using the calculator, math problems should be written as linear equations.

EXAMPLE: $\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$ Rewritten $5 + 3 =$

EXAMPLE: $\frac{5/16}{3/4} =$ Rewritten $\frac{5 \div 16}{3 \div 4} = \frac{.3125}{.75} = .416666$

As Roy Sprotsman (6th grade teacher at Raymore Elementary School, Raymore, Mo.) stated, "My objective is to teach the use of the calculator and its limitations. I want students to realize that the calculator is just another tool to help them in learning math and not a cure-all."

In his handout, "Classroom Math with Calculators", he has exercises in addition, subtraction, multiplication, division, consumer math and classroom games. An example of one classroom game is "NIM".

"The object is to see who keeps from getting 21 or over. Two players take turns. The first player pushes the 1,2, or 3 key. He then pushes the plus key. The second player, having the same key options, then takes his turn. The players keep taking turns until somebody goes to 21. The first person to reach 21 or go over loses."

Should a student have his own calculator--naturally! Good calculators can be bought for less than $10 -- cheaper than a hardbound textbook. What would you look for in a good cheap calculator?

--a large, bright 8 digit display window

--four functions - addition, subtraction, multiplication, division

--"clear" and "clear entry" keys

--a key to add decimal points

--memory would be nice

--one year warranty and repair service

THE MEDIA CENTER SUPPORTS THE ART PROGRAM

JOANN CASEY, LIBRARIAN

The art teacher and the media specialist work closely in developing the art history program at Clark-Vitt Junior High. Work sheets are made from each chapter in the "Young Peoples' Story of Fine Art" series.

The textbooks are kept in the library as reference books and a selected group of students come to the library during their art period to do the work sheets. Bonus points are often a part of the work sheets to which answers may be found in a wide range of art references. The textbooks have been put on tape cassettes for poor readers. Students do work sheets and read text with the aid of the listening station in the media center.

One art period per week is devoted to discussion and grading work sheets. The lessons are reinforced by audio-visual materials which the media specialist has ordered with the assistance of the art teacher.

The art program requires two art books be read each quarter. Work sheets are made on most of the art books which the students answer in writing. A ten minute reading period begins each class during which students must read or work on their book reports.

Before a major art history test, a slide projector is in the media center where students learn to recognize slides of paintings and their artist; famous buildings and their architectural style and location; and famous sculptural works and their artists.

The media approach to the art history program enhances the interest and the learning levels of the art students.

ARTICLE 11

NUMEROUS WAYS TO GIVE BOOK REPORTS

KEN THARPE, MEDIA DIRECTOR

1. **Selling a book:** The reader must convince the rest of the class that the book he read is the best book of its kind. Two children may try to sell two different books on the same topic and see who can do the best job. (clue: watch TV salesmen on the commercials.)

2. **Dioramas or shadowboxes:** Build a scene or happening from a book in a shoe box or similar type box. (stage set)

3. **Peep show:** The peep show is similar to the diorama but the box would be entirely enclosed with an opening eye-size.

4. **Bookmark:** Children may have bookmarks with various designs or illustrations of construction paper or other materials.

5. **Movie or TV show:** Draw on shelf paper scenes from books to tell the story. Roll the shelf paper on two sticks. Build a TV set out of a cardboard box. An opaque projector can be used also as a means of showing pictures.

6. **Radio broadcasts:** Children may act as newsmen broadcasting descriptions of exciting events from books they have read.

7. **Panel:** Panels may be formed by several wishing to report on the same book with time for a question and answer period.

8. **Character letter exchange:** Letters may be exchanged between children playing different characters from books; for example, between Henry Huggins and Edward Frost from "Dog on Barkham Street".

9. **Letters to authors:** Sincere letters may be written and mailed to living authors about books read. (Secure addresses of the authors and illustrators in your own state. Maybe one can come to your school to talk about the books they have written or illustrated.)

10. **Different endings:** Could the story have ended differently? How?

11. **Poems:** Children can write poems retelling the story. (Remember all poems are not written in rhymes.)

12. **Diaries:** Children can write diaries as if they were characters in a book, or they can pretend to visit a book and keep a log.

13. **Code:** Reports can be written in code with a key included.

14. **News stories:** Headlines and front page stories can tell of events in books. Example: Miracle in Pigpen--Writing in Web Tells of Most Unusual Pig. The story will follow.

Other suggestions include: plays, students could write a play around a book; time lines, as reports on historical fiction or biography; experiments, related to science books; travel talk, about a state or country trip, using words, pictures and maps, craft demonstration, from a "how to make" book; book jackets and posters, advertising books; mobiles; and puppet shows.

MORE WAYS TO REPORT

The following are ways children can use to report on reading. These suggestions may also be used in an individualized reading program.

1. Illustrate the story or part of the story.
2. Dramatize the story.
3. Make models of things read about in the book. Example: airplanes, boats, dolls, etc.
4. Flannel board stories.
5. Read an interesting or exciting incident from the book to the class.
6. Tell about an interesting, exciting, or amusing incident from the book.
7. Tell what has been learned from the book, especially in science or nature study.
8. Read assigned parts of the story (Several may be reading the same book and help in this.)
9. Discuss the book with the teacher.
10. Write about the characters you liked the best.
11. Dramatize the story, taking the part of different characters. (Use different hats, or make stick puppets or finger puppets for the various characters.)
12. Write about the characters or scenes in the story you disliked.
13. Make a display that correllates with the book, such as seashells or rocks.
14. Show a science experiment. (If the book was on science.)
15. Paint a mural. (Several may work on this project if reading same book.)
16. Make stick puppets. (This is also good for a group project.)
17. Make string puppets. (This is also good for a group project.)
18. Make paper bag puppets for individual or group playlets of original nature to share with the class or at P.T.A. meetings, etc.
19. Find out about the author and report to the class your findings.
20. Write a poem about a character or part of the story.

21. Make a clay model of some character or characters in the book.

22. Make a diorama of an interesting part of the book. Put title and author above or somewhere to identify the book. Good for book fair project. Display the dioramas in the corridor so all children can enjoy them.

23. Be a super salesman and "sell" your book to the class. May have a copy of the book in your hand and dressed like one of the characters, or pretend you are the author or the illustrator and selling your book.

24. Make a bulletin board display for the classroom or perhaps in the school hall.

25. Make a large map showing the action of your story. (Use this as you tell about the action.)

26. Make a poster to advertise or sell your book to the class. ("sell" is to make the other children want to read the book.)

27. Make up a crossword puzzle about the study. (Give a short oral report and let the class solve your puzzle.)

28. Illustrate the main characters of the book.

29. Make a panel cartoon illustrating some humorous part of the story.

30. Write a letter to a friend recommending a book you have read.

31. Re-write the ending of the book to make it suit your idea of a proper ending according to your "taste"..or "experiences".

32. Pictures of main character, music, etc. from such as "Peter and the Wolf".

33. Give a chalk talk on board or paper to tell the most interesting part of the book or to relate the story to others as you draw.

34. Use recordings...dance or sing...or as background music. Pantomime.

35. Dance (example: Indian dances, or dances from other cultures.)

36. Be a magician and prepare magical tricks: Drawing characters from a hat and telling the part they play in the book.

37. Make up a code and write book report in coded form. (Give key to code.)

38. Make folder for book...include your comments about book in folder, date read, etc.

39. Make a collage (3-D picture) using seeds, beans, macaroni, shells, grass, branches, twigs, fabric, paper, beads, etc.

40. Make a booklet of interesting facts about an animal, bird, etc. in the story.

41. Make a movie (5 panel illustration)...use movie frame to show it.

42. Make your own "Reading Log" by preparing a three-ring notebook or book with brads that can be opened to add new "books read". Each time you complete reading a book, you briefly summarize the book and maybe draw an illustration or paint a scene that would tell others a little about the story and put it inside your "reading

log". Make an attractive cover for your book so you will be glad to share it with others in your room or at book fairs and with your parents.

43. Read two or more books on the same general subject, such as "horse" or "dog" stories and compare the two authors' versions.

44. Read several stories from the same author, learn as much as you can about the author and give a report to your class, telling them only the high points of each book, or tell of her or his style of writing and acquaint them with the author. (Laura Ingalls Wilder for example. Born near Mansfield, Missouri. Her home is preserved there.)